References

American Society of Civil Engineers, 1995. ASCE 7-95, Minimum Design Loads for Buildings and Other Structures. Washington, DC.

Colegio de Ingenieros y Agrimensores de Puerto Rico, Defensa Civil Estatal de Puerto Rico, and Federal Emergency Management Agency, 1996. *Huracanes en Puerto Rico: Guía de Mitigación de Daños*.

Earth Scientific Consultants. Analysis of the Tsunami Potential of Northwestern Puerto Rico.

Federal Emergency Management Agency, 1998. Project Impact: Building a Disaster-Resistant Community. FEMA website.

Hurricane Research Center, 1998. Preliminary Report. Key Biscayne, FL.

National Oceanic and Atmospheric Administration, 1998. *Georges Pummels Caribbean, Florida Keys and U.S. Gulf Coast.* NOAA website.

National Oceanic and Atmospheric Administration, 1998. The Saffir-Simpson Hurricane Scale. NOAA website.

National Weather Service, 1998. *Preliminary Post Hurricane Report.* Hurricane Research Division. Miami, FL. NWS website.

National Weather Service, 1998. Preliminary Report. San Juan, Puerto Rico.

National Weather Service, San Juan, Puerto Rico, 1998. *Tropical Storms and Hurricanes of Puerto Rico and the Virgin Islands*. NWFSO website.

New York Times, 1998. "Costs for Storm Relief Set a Red Cross Record." October 18, 1998. New York, NY.

Southern Regional Climate Center, 1998. Hurricane Georges Storm Information. Baton Rouge, LA. SRCC website.

United States Army Corp of Engineers, 1998. Hurricane Georges. Mobile District September 1998. Mobile, AL. U.S. Army Corp of Engineers website.

University of Texas, 1998. The Perry-Castañeda Library Map Collection. Austin, TX. The University of Texas at Austin website.

To order FEMA publications, call 800/480-2520 or write FEMA Distributional Facility, PO Box 2012, Jessup, MD 20794-2012.

Appendix A

Members of the Building Performance Assessment Team for Hurricane Georges

FEMA BPAT Members:

JHUN DE LA CRUZ Insurance Underwriter Specialist Federal Insurance Administration Washington, DC

BRET GATES Floodplain Management Specialist Mitigation Directorate, Headquarters Washington, DC

KAREN HELBRECHT Hazard Mitigation Planner Mitigation Directorate, Headquarters Washington, DC

CLIFFORD OLIVER, CEM Project Officer Mitigation Directorate, Headquarters Washington, DC

PAUL TERTELL, P.E. Team Leader, Civil Engineer Mitigation Directorate, Headquarters Washington, DC

BPAT Team Members:

SUSAN COOKE ANASTASI Technical Editor URS Greiner Woodward Clyde Federal Services Gaithersburg, MD

CARLOS COMPAÑY Wind Engineer Texas Tech University Lubbock, TX DANIEL DEEGAN Civil Engineer URS Greiner Woodward Clyde Federal Services Atlanta, GA

FRANK DOMINGUEZ, A.I.A. Architect McCullough-Dominguez San Juan, PR

WILLIAM KERR Technical Writer Greenhorne & O'Mara, Inc. Greenbelt, MD

MARK McCULLOUGH, A.I.A. Architect McCullough-Dominguez San Juan, PR

THOMAS L. SMITH, A.I.A. Architect TLSmith Consulting, Inc. Rockton, IL

E. SCOTT TEZAK, P.E. Structural Engineer Greenhorne & O'Mara, Inc. Greenbelt, MD

Presidential Disaster Declarations In Puerto Rico

Declaration Date	Cause	Declaration Number	Emergency Number
		(2)	
8/1/56	Hurricane	62	
5/26/64	Extreme Drought Conditions	170	
10/12/70	Heavy Rains and Flooding	296	
8/29/74	Extreme Drought Conditions		3002
11/30/74	Flooding	455	
9/19/75	Tropical Storm Eloise	483	
9/2/79	Hurricane David	597	
5/31/85	Storms, Mud/land slides, Flooding	736	
10/10/85	Severe storms, Mudslides, Flooding	746	
7/10/86	Heavy Rains, Flooding, Mudslides	768	
12/17/87	Severe Storms, Flooding	805	
9/21/89	Hurricane Hugo	842	
1/22/92	Severe Storms, Flooding	931	
9/16/95	Hurricane Marilyn	1068	
9/11/96	Hurricane Hortense	1136	
11/21/96	Gas Leak Explosion		3124
9/21/98	Hurricane Georges	1247	3130

Acknowledgments

The BPAT would like to thank the following people for their assistance and/or review of the BPAT report:

William Coulbourne, P.E., Greenhorne & O'Mara, Inc.

Ismael Pagán Trinidad, University of Puerto Rico Mayagüez Campus

Dr. Raul Zapata, University of Puerto Rico Mayagüez Campus

Dr. Ricardo Lopez, University of Puerto Rico Mayagüez Campus

Philip Line, American Forest and Paper Association

Richard Okawa, P.E., V.P., International Conference of Building Officials

Eng. Jorge Garcia Faneytth, ARPE

Eng. Carlos O. Gonzalez, ARPE

Eng. Rafael Morales, Government of Puerto Rico Planning Board

Tom Kane, FEMA, Deputy Federal Coordinator - Mitigation for Puerto Rico

Harold Spedding, FEMA - Puerto Rico

Terrence A. Leppellere, P.E., V.P., Building Officials & Code Administration International

José R. Caballero-Mercado, President, Government of Puerto Rico Planning Board

Rafael Mojica, National Weather Service, San Juan, Puerto Rico

Jianming Yin, Ph.D., Applied Insurance Research, Inc.